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First Annual Report
Falconbridge Nickel Mines
Limited

(NO PERSONAL LIABILITY)

*For the Period Ending
October 31st, 1929*

Falconbridge Nickel Mines Limited

Sudbury - Ontario



PRESIDENT

THAYER LINDSLEY

VICE-PRESIDENTS

HALSTEAD LINDSLEY

J. GORDON HARDY

SECRETARY and TREASURER

NORMAN F. PARKINSON

DIRECTORS

THAYER LINDSLEY

HALSTEAD LINDSLEY

NORMAN F. PARKINSON

W. S. MORLOCK

J. GORDON HARDY

MINE SUPERINTENDENT

ERNEST CRAIG, Garson, Ontario

CONSULTING METALLURGIST

ANTON GRONNINGSATER

TRANSFER AGENTS and REGISTRARS

NATIONAL TRUST CO., Toronto

AUDITORS

CLARKSON, GORDON, DILWORTH, GUILFOYLE & NASH
Toronto

FALCONBRIDGE NICKEL MINES, LIMITED

100 Adelaide St. West, Toronto,

December 9th, 1929.

To the Stockholders of
Falconbridge Nickel Mines, Limited.

Since the acquisition of your property at Sudbury in August, 1928, an intensive program of underground development has been under way, together with the installation of smelting equipment at the mine, and the purchase plus enlargement of your refinery at Kristiansand, Norway.

Description of the work accomplished will be found attached herewith in reports by your consulting engineer and mine superintendent, as also an outline of the drilling now commenced to investigate the Falconbridge ore-deposit at horizons down to 3,000 feet from surface. Quarterly reports covering progress will be issued to you hereafter.

The financial position of your Company shows a total available of \$2,358,066.19 in cash on hand; in amounts receivable on investments sold; in receivables on capital stock subscription-contracts, and in minor receivables. Against this are current payables amounting to \$130,299.85. You will see from this that the present program of operations is fully taken care of. Expenditures to 31st October are shown on the attached certified Balance Sheet.

It is expected that your property will start smelting operations at Falconbridge early in 1930, but as the matte then produced has to be sent to Norway for refining, it will probably be July, 1930, before actual sales of production take place.

The Board of Directors wish here to express their appreciation of the efforts of your employees, that have made possible the rapid advance of this enterprise.

By order of the Board.

THAYER LINDSLEY,

President.

Toronto,
December 2nd, 1929.

Mr. Thayer Lindsley, President,
and Board of Directors,
Falconbridge Nickel Mines, Limited.

Dear Sirs:

The results so far achieved in the development of the Falconbridge property are itemised in the accompanying report from Superintendent Ernest Craig. I would add the following remarks and estimates:

ORE RESERVES: We are now able to indicate ore-reserves **within the area bounded by our underground workings**, as shown on the attached maps. The figure of 1,367,000 tons of sorted ore has been calculated as probable, and there is not much chance of this being an overstatement.

Hitherto the Longyear estimate, based on their drilling results, has had to stand. There was no check on their figures until we had carried out our underground development work. This work now shows their assumption that the ore-area shown by their drilling down to 250 feet would continue of equal size to 500 feet to be unjustified. It is true that in our workings we have only touched the ore body at one point between the 250 and 500 foot horizons—in our crosscut from the shaft at 350 feet—but the evidence there presented, coupled with that given by our 1,000 foot level, makes us believe that there exists a definite pinching in the ore body before the 350 foot level is reached. This condition is by no means unusual in the Nickel range and can just as readily be compensated by our encountering elsewhere a swell that we had not counted on.

The comparison above made is with the Longyear estimate of 1,600,000 tons to 500 feet depth and within the "swell" of 600 feet in length. Our results show somewhat less tonnage than this even when we extend the area down to 1,000 feet instead of their 500 feet depth. The cross-section accompanying this report shows the condition.

What comparison we may ultimately make with the larger Longyear estimate of 5,700,000 tons over a length of 7,500 feet and to a depth of 500 feet we have yet no means of checking. Our work has not gone far enough to permit the expression of an opinion, but we do know that the ore-bearing contact in our ground is much longer than the 7,500 feet quoted. We append a transcript of the Longyear drilling results and a map showing its location.

As a matter of fact, however, the question of available tonnage is not one that gives us concern. In less than a year we have developed underground enough ore to keep our smelter running at double its present capacity for at least seven years, and we have such evidence of continuous and lengthy mineralization within our property that we are satisfied all tonnage demands will be met as they develop.

Much more important is the question of the metal content of our tonnage, and here we have been fortunate enough to find underground a somewhat better grade than that indicated by the Longyear drilling. The latter showed an average of 2.32% nickel and 1.19% copper for the tonnage now covered by our underground workings. Our much more complete investigation and sampling underground yields an average of 2.97% nickel and 0.97% copper. The gross value recoverable from this grade of ore at metal prices given hereunder is estimated at \$21.90 per ton.

The deep-drilling campaign now inaugurated is planned to give us intersections from the 1,000 foot level down to the 3,000 foot. So far there has been no difference in the ratio between nickel and copper in the ore found on the 225 foot or 1,000 foot levels, and the average grade of ore on these two levels is about the same.

Lateral development is being pushed on both the 225 foot and 1,000 foot levels, particularly to the west. The last westerly exposure on the upper level measured 50 feet in thickness and is still going strong. The western face of the 1,000 also shows strongly and with increasing width. Drill records show good intersections for 800 feet farther west and there is just a suggestion that the ore rakes in that direction. The eastern faces are not so good and our drilling records show that we have to go some 400 feet farther east to where we can expect betterment.

ESTIMATED COSTS: Figuring on a recovery per ton of sorted ore of 50 lbs. nickel and 15 lbs. copper plus 4c in precious metals per lb. of nickel, the cost of producing nickel is estimated at 20c per lb. This after crediting copper and precious metals to the nickel and on the initial tonnage basis of around 250 tons of ore treated per day.

When marketing conditions permit us to double this output, the cost of nickel, with like credits, should fall to 18c per lb.

ESTIMATED EARNINGS: On the initial tonnage basis, and production of somewhat over 2,000 tons of nickel annually, the above cost should yield earnings of \$656,000 yearly, or 20c per share at present outstanding.

Without further financing, this scale of operations can be doubled as soon as we have established a market for our products, and then the annual earnings should mount to \$1,487,000, or 46c per share. These estimates are based on a selling price for nickel in Europe of £165 per long ton and £75 for cathode copper. It is obvious that earnings will at first go into this expansion and into establishing reserves.

Beyond this point of production further financing would be required. Smelting equipment would have to be rearranged and increased. The Norway refinery would be up to its limits and additional refining capacity should then be installed in Canada. I would repeat that there is every reason to believe that the mine can continue to develop any tonnage-supply that such probable additional capacity would demand.

SMELTER: Construction of this installation has progressed satisfactorily, and would have been even more rapid had equipment manufacturers lived up to their delivery promises. Even yet some deliveries are hanging fire and may delay the expected January commencement of operations.

REFINERY: The Kristiansand (Norway) nickel refinery purchased by Falconbridge, and held by a Norwegian subsidiary named Falconbridge Nikkelverk, has been overhauled and is in process of doubling its capacity to that of 2,500 tons of refined nickel yearly. Much of this added equipment will permit of an ultimate output of around 4,000 tons of refined nickel yearly, so that increase to this latter figure will not entail any great extra expenditure of time or money. This development is under the personal supervision of our Consulting Metallurgist, Mr. Anton Gronningsater—of long experience in nickel.

In addition to handling our own Falconbridge output, this refinery will treat on a toll basis certain Norwegian production, which should add to Falconbridge earnings. Mr. Gronningsater reports that actual operation of this Norwegian production commenced at the end of October.

Our own matte should begin to arrive at the refinery by the end of February, and will then commence to fill up the system of the increased installation. It is not expected that refined nickel from our own production will reach the market before July, 1930.

MARKETING: A sales-contract has been entered into with the well-known metal firm of Brandeis, Goldschmidt & Co., of London, for the marketing of our Kristiansand output. Their wide connections and experience in European metal selling should be of material assistance to us in this important department of our venture.

GENERAL: In addition to the Balance Sheet certified by your auditors your Directors have considered it desirable to furnish the shareholders with a supplementary statement in which are consolidated the assets and liabilities of the Norwegian subsidiary in order that you may have a clear and full understanding of the affairs of your Company. This statement has been prepared from the regular monthly report received from the Norwegian subsidiary, but, as it has not yet been audited, your Company's auditors are not at this moment in a position to append their certificate to the consolidated statement.

I, too, would like to stress my appreciation of the way in which all staff and employees have contributed to the progress that has been made.

Yours very truly,

J. GORDON HARDY,
Consulting Engineer.

FALCONBRIDGE NICKEL MINES, LIMITED

Consolidated Balance Sheet, 31st October, 1929

ASSETS

Cash on Hand and in Banks	\$ 1,130,745.99	
Amounts Receivable on Investments Sold	552,500.00	
Other Accounts Receivable	1,890.15	
Mining Stores	46,461.44	
		\$ 1,731,597.58
Receivable on Capital Stock Subscriptions		675,000.00
Ventures Limited		4,046.05
Mining Properties and Claims	\$ 2,551,299.03	
Purchase Price of Norway Refinery \$389,333.33		
Less: Sale of Old Material 9,620.33	379,713.00	
Mine and Smelter Buildings, Machinery and Equip- ment and New Equipment and Construction at Refinery (Norway)	917,418.37	
		3,848,430.40
Incorporation Expenses	\$ 1,385.00	
Preliminary Organization, Development and Ad- ministrative Expenses Deferred	320,682.13	
Prepaid Insurance	3,529.02	
Commission on Shares Sold	250,000.00	
		575,596.15
Special advance recoverable as a tonnage charge on certain custom metal as and when refined.....		219,000.00
		\$ 7,053,670.18

LIABILITIES

Capital—Authorized 5,000,000 Shares No Par Value.	
Issued and to be issued 3,213,305 Shares	\$ 6,909,581.64
Options Outstanding—550,000 Shares.	
Accounts and Wages Payable	144,088.54
Contingent Liability—	
For completion of capital expenditures at Mine and Smelter and Nikkelverk Refinery.	
	\$ 7,053,670.18

The above statement has been compiled from the audited Balance Sheet of Falconbridge Nickel Mines, Limited, at 31st October, 1929 and from a Trial Balance of the same date received from the Norwegian subsidiary, the Falconbridge Nikkelverk Aktieselskap.

Falconbridge Nickel Mines, Limited

Longyear Drill Holes at Falconbridge

Together with Six Holes Drilled by Falconbridge (F1-F6)

Hole No.	Depth	Angle	Ft. to Ore	Ft. in Ore	Ni.	ASSAYS Cu.	Comb.
114	294	60°S	244	22.0	1.75	.99	2.74
308	359	70°S	168	108.95	2.84	.42	3.27
354	283	70°S	212	30.9	1.98	.67	2.64
306	195	70°S	121	35.8	2.15	1.38	3.54
115	224	65°S	198	20.5	2.51	.36	2.87
304	336	70°S	128	73.0	2.63	1.14	3.77
307	627	75°S	139	230.85	2.57	.59	3.16
302	165	Vert.	50	69.0	1.43	1.40	2.83
303	248	70°S	120	91.0	2.86	.94	3.81
310	462	70°S	147	129.1	2.30	1.11	3.40
146	275	65°S	217	20.0	1.46	.64	2.10
309	348	65°S	147	111.5	2.04	.50	2.55
88	90	Vert.	61	1.0	2.46	.00	2.46
25	221	70°S	169	8.7	1.37	.32	1.67
84	177	60°S	120	10.5	2.10	.92	3.02
86	292	70°S	190	6.0	2.12	.15	2.28
87	269	60°S	228	3.0	1.93	Tr.	1.93
85	239	80°S	132	12.3	1.74	2.66	4.37
23	265	70°S	206	30.5	1.55	1.13	2.68
24	283	70°S	177.5	65.3	1.77	.85	2.62
144	250	70°S	209	21.3	1.83	.98	2.81
193	345	60°N	308.5	3.7	1.59	.56	2.16
160	263	60°S	210.5	17.0	1.83	.41	2.24
159	229	60°S	168	18.0	1.84	.69	2.53
352	698	Vert.	558	18.8	1.82	.93	2.75
353	1220	Vert.	1019	17.8	2.96	1.05	4.02
374	458	70°S	295	54.5	2.29	.79	3.09
133	179	70°S	149	5.0	.42	1.47	1.89
135	302	70°S	266	8.0	1.58	.41	1.99
F. 1	462	80°S	305	71.7	2.14	1.11	3.25
F. 2	317	70°S	225	49.2	2.09	.78	2.87
F. 3	292	70°S	226	37.1	1.63	1.22	2.85
F. 4	483	80°S	378	19.9	2.89	.86	3.75
F. 5	433	80°S	182	89.1	2.82	1.04	3.86
F. 6	1023	80°S	877	69.1	3.34	1.10	4.44
391	101	45°S	Structure Hole				
392	142	60°S	"	"			
601	35	70°S	"	"			
602	36	70°S	"	"			
603	72	70°S	"	"			
131	103	70°S	"	"			
124	221	70°S	"	"			
611	309	70°S	"	"			
612	292	70°S	"	"			
121	92	Vert.	"	"			
122	232	60°S	"	"			

Longyear Drill Holes at Falconbridge—Continued

Hole No.	Depth	Angle	Ft. to Ore	Ft. in Ore	Ni.	ASSAYS Cu.	Comb.
123	180	Vert.	Structure	Hole			
132	118	Vert.	"	"			
134	85	70°S	"	"			
154	249	Vert.	"	"			
155	150	70°S	"	"			
156	230	60°S	"	"			
111	145	Vert.	"	"			
112	140	Vert.	"	"			
113	144	Vert.	"	"			
116	234	70°S	"	"			
81	225	Vert.	"	"			
82	127	Vert.	"	"			
83	91	60°S	"	"			
161			"	"			
373			"	"			
376			"	"			
375			"	"			
371			"	"			
372			"	"			
212			"	"			
213			"	"			
211			"	"			
153			"	"			
152			"	"			
192			"	"			
158			"	"			
142			"	"			
192			"	"			
145			"	"			
171			"	"			
143			"	"			
21			"	"			
22			"	"			
351			"	"			

NOTE—Rock surface in this area is covered by glacial drift to depth of over 100 feet. Lack of outcrops accordingly compelled the drilling of many structural holes to discover where the ore-bearing contact lay.

FALCONBRIDGE NICKEL MINES, LIMITED

FIRST ANNUAL REPORT—PERIOD TO OCTOBER 31st, 1929

Sudbury, Ont.,
November 15th, 1929.

Mr. Thayer Lindsley, President,
Falconbridge Nickel Mines, Limited,
100 Adelaide Street West,
Toronto, Ontario.

Dear Sir:

I beg to submit the following report for the fiscal period ending October 31st, 1929.

PROPERTY FEATURES

The Company owns a total of 7,960 acres, the main portion of which is composed of one group of claims constituting 7,440 acres and situated in the western part of Falconbridge Township, with a small portion in the eastern extremity of Garson Township. The Norite-Sediment contact crosses the property for a total distance of 16,570 feet, the strike of which is approximately east and west. The initial drilling recorded by the Longyear Company indicates that the ore zone has a length of at least 10,420 feet, lying along the contact of the Norite and Sediments.

Work actually commenced on the property on September 7th, 1928, and consisted primarily of making the necessary surface preparations, viz., providing suitable housing and transportation facilities preparatory for mine development.

A three-compartment shaft was started September 17th, and completed to a depth of 1,033 feet, 60 feet of which was sunk through a sand and gravel over-burden prior to encountering bed-rock.

While sinking, stations were established at 225 feet, 350 feet and 1,000 feet from the shaft collar respectively, and in each case cross-cuts were driven north to encounter the ore body.

Intensive development was confined to the 225 foot and 1,000 foot levels. On the former, drifts were extended east and west following the south contact of the ore body, and off which cross-cuts were driven north to determine widths and provide stope openings. Raises have also been put up at intervals of 111 feet to provide stope entrances on this horizon.

Development on the 1,000 foot level consists of a drive east and west along the north side of the ore body with short cross-cuts at intervals, while an additional cross-cut is being driven north to a point 300 feet north of the ore body for the purpose of establishing one of the diamond drill stations planned for a deep drilling campaign.

In preparation for stoping, box holing commenced on the 225 foot and 1,000 foot levels shortly before the close of the current period.

On October 31st, 1929, the total mine development footage is distributed as follows:

Shaft	1,033 feet
Drifts and Cross-cuts	3,056 "
Raises	268 "
Total	4,357 "
Box Holes Completed	9

ORE ESTIMATES

On the 225 foot level the ore body has been opened up for a distance of 680 feet with an average width of 55 feet, thereby calling for 3,767 tons per vertical foot of depth. The average grade is 2.97% nickel, 1.02% copper, and combined 3.99%, after eliminating 12.8% waste. On the basis of 3,767 tons per vertical foot, and figuring 108 feet above the level to rock surface, a gross tonnage of 406,800 tons is estimated.

The only work accomplished to date on the 350 foot level consists of one cross-cut through the ore zone. At this point the ore body proper is narrow, approximating five feet of massive sulphides, with an additional 15 feet of disseminated sulphides showing some high grade ore along the extreme northerly contact. In estimating the ore width on this level it seems reasonable to consider 15 feet as a fair average, although we have very little data available to confirm this figure. Adopting 15 feet as the average ore width, and taking for length the same as developed on the 225 foot horizon, we estimate 299,200 tons of ore between the 350 foot and 225 foot levels.

The ore on the 1,000 level has been opened up for a distance of 1,060 feet and outlined by cross-cuts at irregular intervals. This work has established an average width of 9 feet 6 inches, thus giving 1,014 tons per foot vertical. The average grade is 2.97% nickel, 0.92% copper, and 3.8% combined, after eliminating 9.3% waste. It is difficult to calculate the tonnage between the 1,000 foot and 350 foot levels due to the fact that this sector has not been developed, but as the nature of the ore body is very regular, it seems reasonable to estimate 661,000 tons.

The total ore reserves thus indicated within our underground workings amount to 1,367,000 tons, averaging 2.97% nickel and 0.97% copper, or 3.94% combined. These workings are shown on the attached maps.

DIAMOND DRILLING

During the early part of the period 3,000 feet of drilling was done from surface and at irregular intervals along the ore body. These holes were put down for the express purpose of corroborating the previous Longyear results as to grade, and same were found to check very closely. At the present time we are about to drill to deep levels from the 1,000 foot horizon to investigate the ore occurrences at depth.

SURFACE CONSTRUCTION—MINE

This consisted of installing a complete mining plant of ample capacity to take care of the immediate schedules of production, and the erecting and equipping of substantial buildings and attending utilities. Accommodation for 225 men has been provided, exclusive of dwellings referred to in a later paragraph.

SURFACE CONSTRUCTION—SMELTER

The smelter is being erected in accordance with the design of Mr. Anton Gronningsater, with Mr. J. R. Gill as assistant. Same is located 2,000 feet southeast of the mine shaft and on the northeast shore of Boucher Lake.

While the initial capacity of the smelter will be 250 tons per day, most of the equipment is capable of handling double this amount, therefore an increase to 500 tons per day can be attained with very few additions. At the time of this report the main smelter structure and subsidiary buildings have been completed and practically all heavy machinery installed, hence it is reasonable to assume that we will be ready to go into production some time in the month of January, providing no unforeseen contingencies develop in the meantime.

The flow sheet of this reduction-works is simple. Following crushing and waste-picking on belts at the shaft, the sorted ore will be transported by aerial tram to the smelter bins. Charge cars will take it to the blast-furnace, the matte from which will be blown in basic-lined converters to an 80% metallic product. This will be barrelled and shipped to the Company's electrolytic refinery in Norway, and the refined metals sold on the European market.

POWER

Electric energy is being secured from the Wahnapiatae Power Company's No. 3 plant and is transmitted a distance of $6\frac{1}{2}$ miles over our privately owned line to the property.

TRANSPORTATION

During the period approximately 11,500 tons of freight were transported by truck to the property. All car-load shipments were unloaded at Garson, Ontario, a distance of $3\frac{1}{2}$ miles from the property, but smaller consignments were transported from Sudbury, a distance of 14 miles.

On October 17th, a spur of the Canadian National Railways was completed from Garson to the smelter site, thus solving the transportation problem in a very satisfactory manner.

DWELLINGS

Twenty-five substantial five-room cottages have been erected for the purpose of housing permanent employees. Same are equipped with all modern conveniences. Educational and medical facilities have been satisfactorily taken care of through the erection of a suitable school and first-aid hospital.

In conclusion it gives me pleasure to record the efficient co-operation and loyalty of the staff and employees.

Respectfully submitted,

(Signed) E. CRAIG,
Superintendent.

FALCONBRIDGE NICKEL MINES, LIMITED

Balance Sheet, 31st October, 1929

ASSETS

Cash on Hand and in Banks	\$ 1,124,629.99	
Amounts Receivable on Investments Sold	552,500.00	
Other Accounts Receivable	1,890.15	
Mining Supplies	28,479.81	
		\$ 1,707,499.95
Receivable on Capital Stock Subscriptions in monthly instalments to 2nd March, 1930		675,000.00
Ventures Limited		4,046.05
Mining Properties and Claims	\$ 2,551,299.03	
Mine and Smelter Buildings, Machinery and Equipment	731,487.83	
		3,282,786.86
Incorporation Expenses	\$ 1,385.00	
Development and Administrative Expenses Deferred	252,968.45	
Prepaid Insurance	3,529.02	
Commission on Shares Sold	250,000.00	
		507,882.47
Falconbridge Nikkelverk A/S—		
Investments in and advances to	643,666.16	
Special advance recoverable as a tonnage charge on custom metal as and when refined	\$ 219,000.00	
		862,666.16
		\$ 7,039,881.49

LIABILITIES

Capital—Authorized 5,000,000 Shares No Par Value	
Issued and to be issued 3,213,305 Shares	\$ 6,909,581.64
Options Outstanding—550,000 Shares	
Accounts and Wages Payable, &c.	130,299.85
Contingent Liability—	
For completion of capital expenditure on Mine and Smelter and Nikkelverk Refinery.	
	\$ 7,039,881.49

AUDITORS' CERTIFICATE

We have audited the accounts of Falconbridge Nickel Mines, Limited, from 28th August, 1928, the date of incorporation of the Company, to 31st October, 1929, and we certify that the above Balance Sheet correctly sets forth the position of the company on 31st October, 1929, according to the best of our information and the explanations given us and as shown by the books.

Toronto, 7th December, 1929.

CLARKSON, GORDON, DILWORTH, GUILFOYLE & NASH,
Chartered Accountants.